Report to RTCA SC-186 WG-1
by
Closely Spaced Parallel Approaches Sub-group

May 1998

What we think our Charter is:

- Define and document an Operations Concept for ADS-B/CDTI-based independent approaches to closely spaced parallel runways in IMC
- Prepare MASPS based on the Operations Concept as requested by WG-1
- Prepare an "Application Operational Approval Guidance" document as requested by WG-1
- Provide CDTI information requirements to the CDTI MOPS sub-group as needed
- Coordinate with other SC-186 working groups and sub-groups, especially WG-2 (Separation Assurance Architecture) and WG-4 (Applications Technical Requirements) as needed
- Define requirements for the remaining NASA research on closely spaced parallel approaches to support earliest practical implementation
- Eventually, prepare MOPS for ADS-B/CDTI-based independent approaches to closely spaced parallel runways in IMC

Our Short Term Goals are:

- Prepare a formal working draft “Operations Concept” document, including definition of all the major issues, such as the relationship to TCAS and the role of ATC. This will be presented first to the FAA, then to the next SC-186 Plenary Session in September
- Continue to get support and critique for the CSPA concept from airlines, avionics manufacturers, the FAA and the alphabet organizations
- Review test results of the ongoing NASA research (when available)
- Develop a web page for disseminating documents submitted to the sub-group and a process for their review and acceptance

- Prepare a working draft MASPS within one year

Specific Report and Actions of the First Meeting of the Subgroup:

This meeting was held at Langley Research Center in Hampton, Virginia on May 14, 1998. The following people participated:

Bob Buley, Northwest Airlines (Co-Chair)
Rose Ashford, NASA (Co-Chair)
Rocky Stone, United Airlines (also Chair of RTCA SC-186)
Sethu Rathinan (also Chair of the CDTI MOPS Sub-group)
Al Mattox, ARINC
Anand Mundra, Mitre (also Chair of the Applications Sub-group)
Kim Kuchar, MIT
Marvin Waller, NASA
Vern Battiste, NASA
Barry Sullivan, NASA
Tom Doyle, NASA
Charlie Knox, NASA
Frank McGee, NASA

1. Bob Buley presented a draft top-level Operations Concept for Closely Spaced Parallel Approaches. Earlier versions of this presentation have been made to SC-147, Boeing, ALPA and ATA. There was some discussion of the proposed distributed air-ground concept and whether additional controllers would be required for the approach. There was lively discussion on the role of TCAS during a CSP approach, and whether it would be acceptable for TCAS to be electronically inhibited for just the other AILS aircraft, but remain active for all other aircraft. These issues will be dealt with in more depth in the CSPA Operations Concept document.

2. Marvin Waller presented a summary of the NASA AILS (Airborne Information for Lateral Spacing) research to date and plans for a further simulation in the 757 simulator at LaRC and joint flight test with Honeywell using a Honeywell aircraft and the NASA Boeing 757; to be followed by a full mission controller/pilot procedures simulation in the 747-400 simulator at Ames. Copies of the LaRC draft report entitled "Analysis of the Role of ATC in the AILS Process" were handed out, along with a contractor report entitled "Air Traffic and Operational Data on Selected US Airports with Parallel Runways".

3. Jim Kuchar presented a summary of his Monte Carlo simulation work, demonstrating that the climb-only escape maneuver would not result in sufficient separation between the aircraft.

4. Rocky Stone presented a proposal for Paired Dependent Approaches using ADS-B and TCAS, but without AILS-type alerting.

5. A telecon was set up at 1:30 pm to include Dave Lankford and Keith Dutch from the FAA. Rose Ashford committed to visiting Oklahoma City and reviewing the FAA's ASAT (Airspace Simulation and Analysis for TERPS) Monte Carlo modeling capability before the end of July. Dave said they were analyzing GPS/WAAS final approach dispersion data and would soon be doing this for GPS/LAAS data. This will provide valuable information on expected final approach navigation accuracy.

6. Anand Mundra summarized the FAA organizations that need to be included in ADS-B matters.

7. Rose Ashford will prepare the "Operations Concept" document based on Bob Buley's presentation, the LaRC "Analysis of the Role of ATC in the AILS Process" report and any input received from the sub-group by June 8. The first draft will be distributed to the sub-group by the end of June. Review of the document will be accomplished by telecon and e-mail unless the comments cannot be reconciled, in which case a meeting will be held, probably coincident with the ASAT review meeting in OK City.

8. No date was set for the next meeting.

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